



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,391	02/27/2004	Kazuhiro Mino	Q80124	4819
23373 7590 04/07/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
YEH, EUENG NAN				
ART UNIT		PAPER NUMBER		
2624				
MAIL DATE		DELIVERY MODE		
04/07/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/787,391

**Applicant(s)**

MINO ET AL.

**Examiner**

EUENG-NAN YEH

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,9 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9,11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 28, 2009 has been entered.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 7 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) and recent Federal Circuit decisions (*In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008)) indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be

performed, the claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In order for a process to be "tied" to another statutory category, the structure associated with another statutory category must be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly. For example method claim 7 performs the steps comprising: attaching information, receiving photographed-image data, and detecting information, wherein none of above steps positively "tied" to another statutory category. Secondly, there is no external depiction of the transformed/modified data, such as but not limited to a visual display.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 5-7, 9, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mitsui (US 7,222,235 B1) and Rhoads (US 6,411,725 B1).

Regarding claim 1, Mitsui discloses an information attaching/detecting system comprising:

- object extracting means, for extracting a plurality of regions, each of which includes a photographed object from among the plurality of photographed objects, from within the image (as depicted in figure 15, numeral 106 will perform the object extracting means, "[t]he image inputting apparatus 101(m) inputs an image and converts the input image to electronic data. The image inputting apparatus 101(m) may be a scanner or a digital camera. The image inputting apparatus 101(m) outputs the input image data as an original image A(m). The image processing apparatus 106(m) has a function of inputting the original image A(m) from the image inputting apparatus 101(m) and outputting a processed image C(m). The image processing apparatus 106(m) generates the processed image C(m) by embedding a digital watermark into the original image A(m)" at column 22, line 11. The plurality of photographed objects is shown in figure 33, "FIG. 33 shows how the digital watermark is embedded in the form Y ... the digital watermark is shaded for an explanation. For example, different kinds of digital watermarks are embedded for each of the region S1 and the region S2 because the character size is different between the region S1 and the region S2 ... Furthermore, because the region S3 is a photograph, the digital watermark, which is different from the region S1 and the region S2, is embedded in the region S3" at column 38, line 56);
- information attaching means for attaching different information to each of the regions, which are extracted by the object extracting means corresponding to each photographed object that do not overlap with other regions that include other

photographed objects and acquiring said information-attached image (as discussed above shown in figure 15, numeral 106 will perform the information attaching means. Different information attaches to each not overlap regions is shown in figure 33, "FIG. 33 shows how the digital watermark is embedded in the form Y ... the digital watermark is shaded for an explanation. For example, different kinds of digital watermarks are embedded for each of the region S1 and the region S2 because the character size is different between the region S1 and the region S2 ... Furthermore, because the region S3 is a photograph, the digital watermark, which is different from in the region S1 and the region S2, is embedded in the region S3" at column 38, line 56);

- detection means for detecting said information from received data for each of said plurality objects contained in said information-attached image (as depicted in figure 15, numeral 108 will detect the embedded information received from transmitted information-attached image. Figure 19 shows a block diagram for the information detection. Detailed discussion about the detection processing can be found from column 24, line 22 to column 25, line 8).

Mitsui discloses the detection means from the transmitted information-attached image. Mitsui does not explicitly disclose that the received data can be a photographed-image by photographing an image reproducing medium on which information-attached image is reproduced.

Rhoads, in the field of endeavor of multimedia signal processing ("in particular relates to encoding information into and decoding information from video objects" at column 1, line 30), teaches a robust data embedding methodology as shown in figure 2,

"[i]n FIG. 2, physical objects 200 are pre-watermarked in a manner that survives the video capture process 202. For an example of a watermarking process that survives digital to analog conversion (e.g., printing a digital image on a physical object), and then analog to digital conversion (e.g., capture via a video camera) ... The resulting video is then transmitted or broadcast 204" at column 7, line 29. Thus, the watermark can survive by printing this watermark embedded digital image and then capture this printed image via camera. Without departing from the scope and spirit of Rhoads' methodology, a second image captured by the camera can be an image from printing which created by Mitsui information attached first image.

It would have been obvious at the time the invention was made, that one of ordinary skill in the art would have been motivated to enhance the information attaching/detecting system Mitsui made with the data embedding methodology taught by Rhoads, so the embedded data can survive various scenarios as discussed above.

Regarding claim 2, information attaching means is means for acquiring said information-attached image by hiddenly embedding said information in said image ("An image processing system can be provided such that the image providing apparatus recognizes a format of an image file, and provides the image file in which the digital watermark is embedded in a part of a region based on the format ..." at Mitsui column 5, line 61. See also Rhoads figure 4, numeral 404 "...watermark encoding process 404 encodes the auxiliary information into the content. ..." at Rhoads column 8, line 13).

Regarding claim 5, image pick-up means is a camera provided in a portable terminal (discussed in claim 1, digital camera can be the image pick-up means).

Regarding claim 6, said information is location information representing storage locations of audio data correlated with said plurality of photographed objects ("Another aspect of the invention is a method for using a watermark that has been encoded into a video signal ... The watermark may include a direct (e.g., URL or network address) or indirect link (e.g., object identifier) to the web site ..." at Rhoads column 2, line 35), and which further comprises audio data acquisition means for acquiring said audio data, based on said location information (as depicted in Rhoads figure 1A, numeral 114: "a user interface 114 executes and provides visual, audio, or audio-visual information to the user ... user interface receives input from the user, selecting a video object. In response, it performs an action associated with the selected object using the auxiliary object information decoded from the watermark ..." at Rhoads column 4, line 17. See also "The watermark may carry information or programmatic action. It may also link to external information or an action, such as retrieval and output of information stored elsewhere in a database, website, etc. Watermark linking enables the action associated with the watermark to be dynamic ..." at Rhoads column 4, line 29).

Regarding claim 11, the information device according to claim 1, further comprising:



- a mobile communication terminal having a camera (as discussed in claim 1 and suggested by Rhoads a camera for the mobile communication terminal);
- a server (as depicted in Rhoads figure 8, numeral 802 is a server);
- wherein the camera of the mobile terminal photographs the image reproducing medium (as discussed in claim 1 and suggested by Rhoads a camera of the mobile communication terminal photographs the image reproducing medium);
- wherein the input means and the detecting means are disposed in the server (as depicted in Rhoads figure 8, the server #802 receives input and parses and extracts to detect information: "The server, in response to receiving the message (828), parses it and extracts an index used to look up a corresponding action in a database (830) that associates many such indices to corresponding actions ..." at Rhoads column 14, line 44).

Regarding claim 12: - wherein the information is a location of audio data and the server acquires said audio data using said location and transmits said audio data to said mobile communication terminal (the combination of Mitsui and Rhoads teaches the mobile terminal about the location: "watermark may include a direct (e.g., URL or network address) or indirect link (e.g., object identifier) to the web site ..." at Rhoads column 2, line 44, to get audio data: "user interface 114 (*Rhoads figure 1A*) executes and provides visual, audio, or audio-visual information to the user ... user interface receives input from the user, selecting a video object. In response, it performs an action associated with the selected object ..." at column 4, line 17. Furthermore, "The server,

in response to receiving the message (828) (*Rhoads figure8*), parses it and extracts an index used to look up a corresponding action in a database (830) that associates many such indices to corresponding actions ..." at Rhoads column 14, line 44).

Regarding claim 13, the object extracting means extracts facial regions of humans (as depicted in Mitsui figure 33, region S3).

Regarding claim 14: - a region setting section, for setting block regions corresponding to each photographed object that do not overlap with other regions that include other photographed objects (as discussed in claim 1, the figure 33 of Mitsui contains plurality of not overlapped regions with photographed objects such as S1, S2, S2, and S4);

- an information attaching section, for attaching different information to each of the plurality of block regions which are set by the region setting means (as discussed in claim 1, the information attaching means for, information attached to each region is different).

Regarding claims 7 and 9: - attaching different information to each of a plurality of regions in said image that respectively contain said plurality of photographed objects, and acquiring said information-attached image (as discussed in claim 1 for information attaching means. See also Mitsui figure 33, "FIG. 33 shows how the digital watermark is embedded in the form Y ... the digital watermark is shaded for an explanation. For

example, different kinds of digital watermarks are embedded for each of the region S1 and the region S2 because the character size is different between the region S1 and the region S2 ... Furthermore, because the region S3 is a photograph, the digital watermark, which is different from in the region S1 and the region S2, is embedded in the region S3" at Mitsui column 38, line 56);

- receiving photographed-image data obtained by photographing an image reproducing medium, on which the information-attached image is reproduced, with image pick-up means (as discussed in claim 1, input means for);

- detecting said information from said photographed-image data for each of said plurality of photographed objects contained in said information-attached image (as discussed in claim1, detection means for).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mitsui and Rhoads as applied to claim 1 discussed above, and further in view of Motta et al. (US 6,726,103 B1).

The Mitsui and Rhoads combination discloses an information attaching/detecting system with image pick-up means to receive photographed-image data.

The Mitsui and Rhoads combination does not explicitly disclose a way to correct the geometrical distorted photographed-image data.

Motta, in the same field of endeavor of digital imaging ("relates to the field of image sensors and imaging systems" at column 1, line 8), teaches a geometric correction processing system for the photographed-image data as depicted in figure 3.

"Data processing may include but is not limited to data interpolation, noise reduction, color adjustment, and/or geometric corrections due to optical aberrations ..." at column 4, line 4.

It would have been obvious at the time the invention was made, that one of ordinary skill in the art would have been motivated to provide the information attaching/detecting system made by Mitsui and Rhoads combination with the geometrical distortion correction processor as taught by Motta, in order to provide "[a] system that can self test, detect errors, and correct such errors ... and would be of great value to many businesses and industries" at column 2, line 29.

### ***Response to Arguments***

#### **A) Summary of Applicant's Remark:**

"the applied combination of Rhoads and Narayanaswami fail to disclose "an information attaching means for attaching different information to each of the regions, which are extracted by the object extracting means corresponding to each photographed object that do not overlap with other regions that include other photographed objects, and acquiring said information-attached image."" at response page 8, line 6.

#### **Examiner's Response:**

Applicant's argument is moot in view of the new grounds of rejection advanced herein above. Specifically, the Mitsui (US 7,222,235 B1) reference now teaches the concept of inputting digital image and embedding different digital watermarks into the original image for non overlap regions. Refer to the rejections above for further discussion.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Brunk (US 2002/0054355 A1): to verify the authenticity of a printed image by scanning through a low resolution scanner or digital camera to capture a digital image from a printed image.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eueng-nan Yeh whose telephone number is 571-270-1586. The examiner can normally be reached on Monday-Friday 8AM-4:30PM EDT.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eueng-nan Yeh  
Assistant Patent Examiner  
Art Unit: 2624  
/E.Y./

/Vikram Bali/

Supervisory Patent Examiner, Art Unit 2624